

### REMARKS

This responds to the Office Action mailed on November 3, 2005.

Claim 1 and withdrawn claims 5, 9, 13, 17, 25, 29, and 35 are amended, no claims are canceled, and no claims are added; as a result, claims 1- 40 are now pending in this application with claims 1-4 currently pending examination. The amendments to the claims are fully supported by the specification as originally filed. No new matter is introduced. Applicant respectfully requests reconsideration of the above-identified application in view of the amendments above and the remarks that follow.

Support for amendments to claim 1 and withdrawn claims 5, 9, 13, 17, 25, 29, and 35 may be found in the specification, for example, at page 13, line 29 – page 14, line 1. No new matter is introduced. Applicant submits that the amendments to claims 1, 5, 9, 13, 17, 25, 29, and 35 place these claims in condition for allowance.

#### *In the Specification*

The specification is amended to update the status of U.S. Application Serial No. 10/219,878, from which the instant application is a divisional application. No new matter is introduced.

#### *First §103 Rejection of the Claims*

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over VanDover (U.S. 6,093,944) in view of Scobey et al. (U.S. 6,115,401). Applicant traverses these grounds of rejection of these claims.

In the Office Action, it is stated:

Furthermore, claim 1 is a product-by-process claim, and as such, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP section 2113).

Applicant submits that product-by-process language may be used in a patentable claim to provide description of a structure being claimed, where such language provides a means to define the structure. See MPEP § 2113.

Applicant cannot find in the combination of VanDover in view of Scobey et al. (hereafter Scobey) a teaching or suggestion of an electronic device with a dielectric layer containing a  $\text{TiO}_x$  layer doped with a lanthanide, where the  $\text{TiO}_x$  layer doped with the lanthanide has an oxygen content supplemented during formation of the  $\text{TiO}_x$  layer doped with the lanthanide by ion assisted electron beam evaporation as recited in claim 1. Though Applicant does not agree with combining VanDover and Scobey as proffered in the Office Action, Applicant submits that the proposed combination of VanDover and Scobey does not teach or suggest a  $\text{TiO}_x$  layer doped with the lanthanide having an oxygen content as recited in claim 1. Applicant cannot find in the combination of VanDover and Scobey a teaching or suggestion of a  $\text{TiO}_x$  layer doped with the lanthanide being supplemented with oxygen. Therefore, Applicant submits that VanDover in view of Scobey does not teach or suggest all the elements of claim 1 and that claim 1 is patentable over VanDover in view of Scobey.

Further, VanDover mentions various forms of a  $\text{T}_{1-y}\text{M}_y\text{O}_x$  composition, where M is a lanthanide selected from neodymium (Nd), terbium (Tb), and dysprosium (Dy). The various forms may be a sputtered  $\text{T}_{1-y}\text{M}_y\text{O}_x$  composition, a plasma-enhanced CVD  $\text{T}_{1-y}\text{M}_y\text{O}_x$  composition, a laser ablated  $\text{T}_{1-y}\text{M}_y\text{O}_x$  composition, and a reactive sputtered  $\text{T}_{1-y}\text{M}_y\text{O}_x$  composition. See *VanDover, Summary and column 6, lines 59-64*. Scobey notes that in addition to structures using silica, niobia may be formed as an ion assisted electron beam evaporated niobia. See *Scobey, column 10, lines 55-60*. The limited reference to ion assisted electron beam evaporation in Scobey does not appear to address a doped metal oxide, such as a  $\text{TiO}_x$  layer doped with a lanthanide, structured by ion assisted electron beam evaporation. Since Scobey appears to lack a teaching or a suggestion regarding a doped metal oxide, such as a  $\text{TiO}_x$  layer doped with lanthanide, structured by ion assisted electron beam evaporation, Applicant submits that the combination of VanDover and Scobey as proposed in the Office Action is not proper. Therefore, Applicant submits that VanDover in view of Scobey does not teach or suggest all the elements of claim 1 and that claim 1 is patentable over VanDover in view of Scobey.

Claims 2 and 3 depend on claim 1. Therefore, Applicant submits that claims 2 and 3 are patentable over VanDover in view of Scobey for at least the reasons discussed herein with respect to claim 1.

Applicant respectfully requests withdrawal of these rejections of claims 1-3, and reconsideration and allowance of these claims.

*Second §103 Rejection of the Claims*

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanDover in view of Scobey et al. as applied to claim 1 above, and further in view of Gardner et al. (U.S. 6,225,168). Applicant traverses these grounds of rejection of this claim.

Applicant cannot find in VanDover in view of Scobey and further in view of Gardner et al. (hereafter Gardner) a teaching or suggestion of an electronic device with a dielectric layer containing a TiO<sub>x</sub> layer doped with a lanthanide, where the TiO<sub>x</sub> layer doped with the lanthanide has an oxygen content supplemented during formation of the TiO<sub>x</sub> layer doped with the lanthanide by ion assisted electron beam evaporation as recited in claim 1. Applicant submits that Gardner does not cure the deficiencies of applying VanDover in view of Scobey to claim 1 as discussed above. Therefore, Applicant submits that claim 1 is patentable over VanDover in view of Scobey and further in view of Gardner for at least the reasons discussed above. Claim 4 depends on claim 1 and is patentable over VanDover in view of Scobey and further in view of Gardner for at least the reasons discussed above.

Applicant respectfully requests withdrawal of these rejections of claim 4, and reconsideration and allowance of this claim.

*Withdrawn Claims*

In the Restriction Requirement for the instant application mailed 21 March 2005, claim 1 was noted as being generic to the original claims. The withdrawn independent claims 5, 9, 13, 17, 25, 29, and 35 are amended in line with the amendments to claim 1. With the allowance of claim 1, Applicant respectfully requests the rejoinder and allowance of claims 5-40. *See M.P.E.P. 809.*

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 371-2157 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

KIE Y. AHN ET AL.

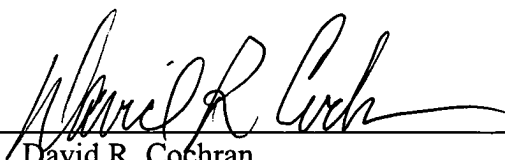
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Date

3 January 2006

By



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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 3 day of January, 2006.

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